



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,956	05/05/2005	Gerhard Oberhoffner	14603-013US1 P2002,0800 U	8758
26161	7590	06/26/2008	EXAMINER	
FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			GAMI, TEJAL	
			ART UNIT	PAPER NUMBER
			2121	
			MAIL DATE	DELIVERY MODE
			06/26/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/528,956	Applicant(s) OBERHOFFNER ET AL.	
	Examiner TEJAL J. GAMI	Art Unit 2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 March 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is responsive to an AMENDMENT entered March 21, 2008 for the patent application 10/528956.

Status of Claims

2. Claims 1-20 were rejected in the last Office Action dated September 21, 2007.
As a response to the September 21, 2007 office action, Applicant has Amended claims 1-3, 6, and 16-18.
Claims 1-20 are now pending in this office action.

Drawings and Specification Objections

3. Examiner thanks Applicant for amending the drawings and specification in response to the objections of the previous office action. Those objections have been withdrawn.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hyatt (U.S. Patent Number: 5,339,275).

As to independent claim 1, Hyatt discloses a controller (see Col. 48, Lines 18-33) comprising:

- a control circuit (e.g., circuit 996) (see Figure 9) comprising:

- a forward path that includes an input and an output (see Col. 19, Lines 35-43);

- a feedback path coupled to the output and to the input (see Col. 19, Lines 35-43); and

- a sensor (e.g., transducer) (see Col. 116, Lines 56-61), which is between the input and the output, the sensor for generating a sensor signal (e.g., magnetostrictive signals) (see Col. 116, Lines 56-61);

- an error signal generator to generate an error signal and to provide the error signal to the control circuit (see Col. 92, Line 59 to Col. 93, Line17), wherein the forward path is configured to generate an output signal based on the sensor signal and the error signal (see Col. 92, Line 59 to Col. 93, Line17), the output signal being sent along the feedback path to the input of the forward path (see Col. 92, Line 59 to Col. 93, Line17); and

- a detector (e.g., detectors 643 and 645) to obtain an intermediate signal from the forward path between the input and the output, the detector for generating a control signal (see Col. 82, Lines 34-44);

wherein the forward path comprises a control device to limit the output signal to a predetermined value (see Col. 99, Lines 36-43), the detector (e.g., detectors 643 and 645) for controlling the control device using the control signal (see Col. 82, Lines 34-44).

As to independent claim 8, Hyatt discloses a method of operating a controller (see Col. 48, Lines 18-33) comprised of:

a forward path that includes an input and an output (see Col. 19, Lines 35-43);
a feedback path coupled to the output and to the input (see Col. 19, Lines 35-43);
and

a sensor (e.g., transducer) (see Col. 116, Lines 56-61), which is between the input and the output, the sensor generating a sensor signal (e.g., magnetostrictive signals) (see Col. 116, Lines 56-61), the forward path generating an output signal based on the sensor signal (see Col. 19, Lines 35-43), the output signal being applied to the input of the forward path via the feedback path (see Col. 19, Lines 35-43);

wherein the method comprises:

obtaining an intermediate signal from the forward path between the input and the output (see Col. 19, Lines 35-43);

generating a comparison (e.g., if) signal by comparing the intermediate signal to a stored measurement signal (e.g., time delay) (see Col. 19, Lines 35-43);

generating a control signal (e.g., feedback or feedforward) based on the comparison signal (see Col. 19, Lines 35-43); and

applying the control signal to a control device in the forward path (see Col. 19, Lines 35-43), the control device limiting the output signal to a predetermined value in response to the control signal (see Col. 99, Lines 36-43).

As to independent claim 16, Hyatt discloses a controller (see Col. 48, Lines 18-33) comprising:

a control circuit (e.g., circuit 996) (see Figure 9) comprising:

a forward path that includes an input and an output (see Col. 19, Lines 35-43);

a feedback path coupled to the output and to the input (see Col. 19, Lines 35-43); and

a sensor (e.g., transducer) (see Col. 116, Lines 56-61), which between the input and the output, the sensor for generating a sensor signal based on an input signal applied to the input (e.g., magnetostrictive signals) (see Col. 116, Lines 56-61), wherein the forward path is configured to generate an output signal based on the sensor signal (see Col. 19, Lines 35-43), the output signal being sent along the feedback path to the input of the forward path (see Col. 19, Lines 35-43); and

a detector (e.g., detectors 643 and 645) to obtain an intermediate signal from the forward path between the input and the output, the detector for generating a control signal using the intermediate signal (see Col. 82, Lines 34-44);

wherein the forward path comprises a control device to limit the output signal to a predetermined value (see Col. 99, Lines 36-43), the detector (e.g., detectors 643 and 645) for controlling the control device using the control signal (see Col. 82, Lines 34-44).

As to dependent claim 2, Hyatt teaches the controller of claim 1, wherein the detector (e.g., detectors 643 and 645) (see Col. 82, Lines 34-44) comprises:

a storage device (e.g., memory) to store a measurement signal (see Col. 76, Lines 36-41); and

a comparator (e.g., comparator 617) to compare the intermediate signal to the measurement signal and to output a comparator signal (see Col. 23, Lines 36-37).

As to dependent claim 3, Hyatt teaches the controller of claim 2, wherein the detector (e.g., detectors 643 and 645) (see Col. 82, Lines 34-44) further comprises:

decision logic (e.g., comparison logic) to receive the comparator (e.g., comparator 617) signal and to control the control device in accordance with the comparator signal (see Col. 88, Lines 48-68).

As to dependent claim 4, Hyatt teaches the controller of claim 1, wherein the control device comprises a clamp circuit (see Col. 82, Lines 35-44).

As to dependent claim 5, Hyatt teaches the controller of claim 2, wherein the comparator comprises at least one of a signal level comparator and a signal sign comparator (see Col. 23, Lines 36-64).

As to dependent claim 6, Hyatt teaches the controller of claim 1, further comprising:

a time signal generator to generate a time signal output, wherein the error signal generator is configured to generate the error signal based on the time signal output (see Col. 87, Lines 56-62).

As to dependent claim 7, Hyatt teaches the controller of claim 1, wherein the sensor comprises a magnetoresistive sensor (see Col. 116, Lines 56-61).

As to dependent claim 9, Hyatt teaches the method of claim 8, wherein the measurement signal is stored in a storage device, and comparing is performed using a comparator (see Col. 46, Lines 4-7).

As to dependent claim 10, Hyatt teaches the method of claim 8, wherein the control signal is generated via decision logic (e.g., comparison logic), the decision logic being controlled by the comparison signal (see Col. 88, Lines 48-68), the decision logic generating the control signal if a predetermined criterion is satisfied (see Col. 99, Lines 36-43).

As to dependent claim 11, Hyatt teaches the method of claim 9, wherein the comparator comprises at least one of a signal sign comparator and a signal level comparator (see Col. 23, Lines 36-64).

As to dependent claim 12, Hyatt teaches the method of claim 10, further comprising:

generating an error signal based on an output of a time signal generator and an output of the decision logic (see Col. 87, Lines 56-62); and

applying the error signal to the forward path, the intermediate signal being based on both the sensor signal and the error signal (see Col. 19, Lines 35-43).

As to dependent claim 13, Hyatt teaches the method of claim 1, wherein the control signal comprise a signal output of the detector (see Col. 82, Lines 34-44).

As to dependent claim 14, Hyatt teaches the controller of claim 1, wherein the sensor generates the sensor signal based on one or more input signals applied to the input of the forward path (see Col. 19, Lines 35-43).

As to dependent claim 15, Hyatt teaches the method of claim 8, wherein the sensor generates the sensor signal based on one or more input signals applied to the input of the forward path (see Col. 19, Lines 35-43).

As to dependent claim 17, Hyatt teaches the controller of claim 16, wherein the detector (e.g., detectors 643 and 645) (see Col. 82, Lines 34-44) comprises:

a storage device (e.g., memory) to store a measurement signal (see Col. 76, Lines 36-41); and

a comparator (e.g., comparator 617) to compare the intermediate signal to the measurement signal and to output a comparator signal (see Col. 23, Lines 36-37).

As to dependent claim 18, Hyatt teaches the controller of claim 17, wherein the detector (e.g., detectors 643 and 645) (see Col. 82, Lines 34-44) further comprises:

decision logic (e.g., comparison logic) to receive the comparator (e.g., comparator 617) signal and to control the control device in accordance with the comparator signal (see Col. 88, Lines 48-68).

As to dependent claim 19, Hyatt teaches the controller of claim 16, wherein the control device comprises a clamp circuit (see Col. 82, Lines 35-44).

As to dependent claim 20, Hyatt teaches the controller of claim 17, wherein the comparator comprises at least one of a signal level comparator and a signal sign comparator (see Col. 23, Lines 36-64).

Response to Arguments

6. Applicant's amendment and arguments filed March 21, 2008 have been fully considered. The amendment does not overcome the original art rejection and the arguments are not persuasive. The following are the Examiner's observations in regard thereto.

Applicant Argues:

Nowhere does Hyatt disclose a controller that includes a control circuit, an error signal generator, and a detector, each having the features of claim 1.

Examiner Responds:

Examiner is not persuaded. See office action above where the prior art anticipates a controller that includes a control circuit (e.g., circuit 996) (see Figure 9), an error signal generator (e.g., amplifier generating error signal) (see Col. 92, Line 59 to Col. 93, Line17), and a detector (e.g., detectors 643 and 645) (see Col. 82, Lines 34-44).

Applicant Argues:

Hyatt's refresh circuit 996 is not a control circuit.

Examiner Responds:

Examiner is not persuaded. See prior art where circuitry 996 may be used to control refresh operations as a function of actual degradation of the signal and may

Art Unit: 2121

therefore be used over a range of degradation variables such as over a temperature range, over a clock pulse frequency range, and over variations between different CCD memory devices and may further be used to adaptively compensate for other variations such as charge leakage, aging of CCD memory elements, and other such effects (see Col. 70, Lines 14-23); and may provide a gain control signal (see Col. 75, Lines 47-48). Under such consideration, refresh circuit 996 is a control circuit.

Applicant Argues:

Further, input signals 504 and 505 and output signals 506 and 507 do not belong to circuit 996. Therefore, register 501 is not a control circuit and is different from circuit 996. The inputs and outputs of register 501 are not parts of circuits 996.

Examiner Responds:

Examiner is not persuaded. See prior art Col. 104, Lines 59-66 where the register 501 may include circuit 996 and other circuitry. Also see Figure 12B for inputs and outputs. Under such considerations, circuit 996 comprises input and output signals.

Applicant Argues:

Hyatt does not disclose that the transducer is between the input and output of refresh circuit 996, nor does it disclose that the transducer is a sensor to generate a sensor signal, as recited by claim 1.

Examiner Responds:

Examiner is not persuaded. See prior art Col. 116, Lines 56-61 where signals which may be sensed such as with a transducer (e.g., input) and which may be processed

Art Unit: 2121

such as with a filter (e.g., output). Under such considerations, the claims as written are anticipated by the prior art.

Applicant Argues:

The system that includes feedback error generation as cited by the Examiner is not part of Hyatt's controller. Further, Hyatt's feedback error signal is not sent along the feedback path to the input of the forward path, as recited by claim 1.

Examiner Responds:

Examiner is not persuaded. The error signal generator is not part of circuit 996 and is part of the system controller as claimed.

Applicant Argues:

Without conceding that Hyatt's detectors 643 and 645 are part of a control, nowhere does Hyatt disclose that detectors 643 and 645 obtain an intermediate signal from forward path between the input and output and generates control signal based on the intermediate signal.

Examiner Responds:

Examiner is not persuaded. See prior art Col. 82, Lines 34-44 where the detectors may be implemented as triggers (e.g., control signal) for an analog output signal; wherein control circuitry includes compositor control, one-shot, counters, decoder, and decoder.

Applicant Argues:

Claim 1 that includes the forward path comprises a control device that limits the output signal to a predetermined value, the detector controlling the control device using the control signal. The predetermined discharge signal does not belong to a control device included in a forward path of a control circuit. Nor is it a value that limits the output of a control circuit.

Examiner Responds:

Examiner is not persuaded. See prior art Col. 82, Lines 34-44 where Hyatt teaches analog threshold detectors for an analog output signal (e.g., limit output signal). Under such considerations, the claims as written are anticipated by the prior art.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tejal J. Gami whose telephone number is (571) 270-1035. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Albert DeCady/
Supervisory Patent Examiner
Tech Center 2100

/TJG/